

WHAT IS CLAIMED IS:

1. A method of extracting an image area of interest in an inputted image comprising the steps of:
 - acquiring spatial frequency information and
 - 5 chromaticity information for respective predetermined blocks from the inputted image; and
 - searching for the image area of interest in the inputted image using the acquired spatial frequency information and chromaticity information.
- 10 2. A method according to claim 1, wherein said inputted image comprises compressed image data, further comprising a step of decompressing the compressed image data, and wherein in said acquiring step, the spatial frequency information and chromaticity information are acquired from
- 15 the decompressed image data.
3. A method according to claim 2, further comprising the steps of:
 - acquiring quantization parameters for
 - decompression; and
 - 20 stopping extraction of the image area of interest in accordance with said acquired quantization parameters.
4. A method according to claim 2, wherein said compressed image data comprises JPEG image data and the decompressed image data includes DCT coefficients and bit
- 25 map data.
5. A method according to claim 1, wherein said searching step comprises the steps of:

extracting consecutive blocks having a predetermined range of chromaticity value; and

determining whether or not said extracted consecutive blocks are the image area of interest based on an average of spatial frequency value within said extracted consecutive blocks.

6. A method according to claim 5, wherein a threshold level for determining whether or not said extracted consecutive blocks are the image area of interest is changed in accordance with a size of image to be extracted.

7. A method according to claim 5, wherein said searching step further comprises a step of selecting candidates of the image area of interest based on a number of said extracted consecutive blocks.

8. A method according to claim 7, wherein a threshold level for selecting candidates of the image area on interest is changed in accordance with a size of image to be extracted.

9. A method of reconstructing an image from inputted compressed image data comprising the steps of:

extracting an image area of interest in an inputted image having said inputted compressed image data; and

reconstructing an image with correction of image data in the image area of interest to a predetermined value,

wherein said extracting step comprising the steps of:

- acquiring spatial frequency information and
chromaticity information for respective predetermined
blocks from the inputted compressed image data; and
searching for an image area of interest in an
5 inputted image using the acquired spatial frequency
information and chromaticity information.
10. A method according to claim 9, wherein said
predetermined value comprises a predetermined chromaticity
value.
- 10 11. A method according to claim 9, wherein said
extracting step further comprises a step of decompressing
the inputted compressed image data, and wherein in said
acquiring step, the spatial frequency information and
chromaticity information are acquired from the
15 decompressed image data.
12. A method according to claim 11, further comprising
the steps of:
acquiring quantization parameters for
decompression; and
20 stopping extraction of the image area of interest in
accordance with said acquired quantization parameters.
13. A method according to claim 11, wherein said
compressed image data comprises JPEG image data and the
decompressed image data includes DCT coefficients and bit
25 map data.
14. A method according to claim 9, wherein said searching
step comprises the steps of:

extracting consecutive blocks having a predetermined range of chromaticity value; and

determining whether or not said extracted consecutive blocks are the image area of interest based on an average of spatial frequency value within said extracted consecutive blocks.

15 15. A method according to claim 14, wherein a threshold level for determining whether or not said extracted consecutive blocks are the image area of interest is changed in accordance with a size of image to be extracted.

16. A method according to claim 14, wherein said searching step further comprises a step of selecting candidates of the image area on interest based on a number of said extracted consecutive blocks.

15 17. A method according to claim 16, wherein a threshold level for selecting candidates of the image area on interest is changed in accordance with a size of image to be extracted.

18. A program for making a computer execute the method according to claim 1.

19. A storage medium computer-readably storing the program according to claim 18.

20. A program for making a computer execute the method according to claim 9.

25 21. A storage medium computer-readably storing the program according to claim 20.

22. An image processing apparatus of extracting an image area of interest in an inputted image comprising:

first acquiring means for acquiring spatial frequency information and chromaticity information for
5 respective predetermined blocks from the inputted image;
and

searching means for searching for the image area of interest in the inputted image using the spatial frequency information and chromaticity information acquired by said
10 first acquiring means.

23. An apparatus according to claim 22, wherein said inputted image comprises compressed image data, further comprising decompressing means of decompressing the compressed image data, and wherein in said acquiring step,
15 the spatial frequency information and chromaticity information are acquired from the decompressed image data.

24. An apparatus according to claim 23, further comprising:

second acquiring means for acquiring quantization
20 parameters for decompression; and

stopping means for stopping extraction of the image area of interest in accordance with said quantization parameters acquired by said second acquiring means.

25. An apparatus according to claim 23, wherein said compressed image data comprises JPEG image data and the decompressed image data includes DCT coefficients and bit map data.

26. A method according to claim 22, wherein said searching means comprises:

extracting means for extracting consecutive blocks having a predetermined range of chromaticity value; and

5 determining means for determining whether or not said extracted consecutive blocks are the image area of interest based on an average of spatial frequency value within said extracted consecutive blocks.

27. An apparatus according to claim 26, wherein a
10 threshold level for determining whether or not said extracted consecutive blocks are the image area of interest is changed in accordance with a size of image to be extracted.

28. An apparatus according to claim 26, wherein said
15 searching means further comprises selecting means for selecting candidates of the image area on interest based on a number of said extracted consecutive blocks.

29. An apparatus according to claim 28, wherein a
20 threshold level for selecting candidates of the image area on interest is changed in accordance with a size of image to be extracted.

30. An image processing apparatus for reconstructing an image from inputted compressed image data comprising:

extracting means for extracting an image area of
25 interest in an inputted image having said inputted compressed image data; and

reconstructing means for reconstructing an image with correction of image data in the image area of interest to a predetermined value,

wherein said extracting means comprising:

5 first acquiring means for acquiring spatial frequency information and chromaticity information for respective predetermined blocks from the inputted compressed image data; and

 searching means for searching for an image area
10 of interest in an inputted image using the acquired spatial frequency information and chromaticity information.

31. An apparatus according to claim 30, wherein said predetermined value comprises a predetermined chromaticity value.

15 32. An apparatus according to claim 30, wherein said extracting means further comprises decompressing means for decompressing the inputted compressed image data, and wherein said first acquiring means acquires the spatial frequency information and chromaticity information from
20 the decompressed image data.

33. An apparatus according to claim 32, further comprising :

 second acquiring means for acquiring quantization parameters for decompression; and

25 stopping means for stopping extraction of the image area of interest in accordance with said acquired quantization parameters.

34. An apparatus according to claim 32, wherein said compressed image data comprises JPEG image data and the decompressed image data includes DCT coefficients and bit map data.

5 35. An apparatus according to claim 30, wherein said searching step comprises the steps of:

extracting consecutive blocks having a predetermined range of chromaticity value; and

determining whether or not said extracted
10 consecutive blocks are the image area of interest based on an average of spatial frequency value within said extracted consecutive blocks.

36. An apparatus according to claim 35, wherein a threshold level for determining whether or not said
15 extracted consecutive blocks are the image area of interest is changed in accordance with a size of image to be extracted.

37. An apparatus according to claim 34, wherein said searching step further comprises a step of selecting
20 candidates of the image area on interest based on a number of said extracted consecutive blocks.

38. An apparatus according to claim 37, wherein a threshold level for selecting candidates of the image area on interest is changed in accordance with a size of image
25 to be extracted.